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Nota di contenuto	Adult stem cells / Andreas Nussler, Saharol Sadat Sajadian -- Pluripotent stem cells / Hossein Azizi, Akbar Hajizadeh Moghaddam, Thomas Skutella -- Interactions of stem cells and components of the extracellular matrix / Anna K. Blakney, Julie J. Antetomaso, Winnie W. Leung, Deok-ho Kim -- Regenerative medicine and cell therapy : past, present and future / Hooman Sadri-Ardekani, Anthony Atala -- Principles of nanotechnology / Jerzy Leszczynski -- Stem cell nanoengineering : explorations in a rapidly moving field / Abhalaxmi Singh, Sanjeeb K. Sahoo -- Nanopatterned surfaces for stem cell engineering / Waleed Ahmed El-Said, Tae-Hyung Kim, Ki-Bum Lee, Jeong-Woo Choi -- Biomimetic nanostructures by electrospinning and electrospraying / Elham Vatankhah, Molamma P. Prabhakaran, Seeram Ramakrishna -- Nanoparticules for stem cell engineering / Esmaiel Jabbari -- Toxicology of nanobiomaterials / Shahin Bonakdar, Omid Mashinchian -- Stem cell responses to surface nanotopographies / Peng-Yuan Wang, Wei-bor Tai -- Control of mesenchymal stem cell fate by engineering the nanoenvironment / Habib Nikukar, Stuart Reid, Mathis O. Riehle, Adam S.G. Curtis, Matthew J. Dalby -- Delivery of molecules and genes/siRNA into stem cells by nanoengineering / Mohsen Ashjari -- Expansion of stem cells by nano-

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Sommario/riassunto

Stem Cell Nanoengineering reviews the applications of nanotechnology in the fields of stem cells, tissue engineering, and regenerative medicine. Topics addressed include various types of stem cells, underlying principles of nanobiotechnology, the making of nano-scaffolds, nano tissue engineering, applications of nanotechnology in stem cell tracking and molecular imaging, nano-devices, as well as stem cell nano-engineering from bench to bedside. Written by renowned experts in their respective fields, chapters describe and explore a wide variety of topics in stem cell nanoengineering, making t